

The University of Toronto, Department of Electrical Engineering and the Division of Extension, is presenting a one-week course on High Voltage Corona, in collaboration with the Department of Electrical Engineering, Iowa State University.

STRUCTURE:

The course will include formal lectures, addresses by specialists in the field, practical sessions, and laboratory periods.

The theoretical part of the course will cover the basic physical background of high voltage corona, while the laboratory sessions will emphasize the practical aspects and the engineering significance of corona, such as corona loss and radio interference.

FACILITIES:

Premises of the Corona Research Laboratory, Department of Electrical Engineering, University of Toronto.

DIPLOMA:

A special diploma will be issued to participants completing the course.

ELIGIBILITY

The course is intended for engineers, physicists, and educators, who are already involved in or interested in specializing in the area of high voltage corona.

Participants should have a minimum of a baccalaureate degree or equivalent, and should have experienced an introductory course in electromagnetic fields. An introductory course in modern physics is desirable but not mandatory.

ENROLMENT

The deadline for course enrolment is March 31, 1970. Applications (see attached form) are to be sent with the tuition fee, to the University of Toronto, Division of Extension, 84 Queen's Park, Toronto 5, Canada.

Registration will be limited to 30 participants.

Applicants accepted for the course will be notified by April 30, 1970.

In the event of insufficient enrolment, the course will be cancelled and tuition fees will be refunded.

COST

The fee of \$300.00 includes all notes, materials, use of laboratories, field trip transportation, Thursday evening dinner, and daily break refreshments.

ACCOMMODATION

Accommodation may be available in university residences. Further information will be sent to registrants.

COURSE OUTLINE

FUNDAMENTALS

- | | |
|------------|---|
| Theory I | Lecture 1: Ionization Lecture 2: Deionization |
| Theory II | Lecture 3: Electron emission Lecture 4: Behavior of charged particles in a gas under low E/p Lecture 5: Behavior of charged particles in a gas under high E/p |
| Theory III | Lecture 6: The self-sustaining discharge Lecture 7: Breakdown mechanisms |
| Theory IV | Lecture 8: The temporal development of breakdown Lecture 9: Partial breakdown or corona |

Review and miscellaneous problems.

APPLICATIONS

- | | |
|----------------|--|
| Practice I | Introduction to work in an HV laboratory |
| Practice II | Measurement of radio noise |
| Practice III | Determination of corona losses |
| Laboratory I | Corona onset |
| Laboratory II | Radio noise |
| Laboratory III | Corona loss |

BOX FILE HIGH VOLTAGE CORONA



UNIVERSITY OF TORONTO
Division of Extension
May 25 - 29, 1970

PROGRAMME

SUNDAY, May 24

5:00 p.m. Registration, welcoming tea

MONDAY, May 25

9:00 a.m.-10:00 a.m. Opening session
Keynote address : N. Hylten - Cavallius
10:00 a.m.-12:00 noon Theory I
2:00 p.m.-5:00 p.m. Theory II
7:00 p.m.-8:30 p.m. Practice I

TUESDAY, May 26

9:00 a.m.-10:00 a.m. Theory IIIa
10:00 a.m.-11:00 a.m. Special Lecture
11:00 a.m.-12:00 noon Theory IIIb
2:00 p.m.-4:30 p.m. Visit to the Dobson Research Laboratories of Ontario Hydro

WEDNESDAY, May 27

9:00 a.m.-10:00 a.m. Theory IVa
10:00 a.m.-11:00 a.m. Research studies of Radio Noise caused by HV Corona
R.M. Morris
11:00 a.m.-12:00 noon Theory IVb
2:00 p.m.-4:30 p.m. Practice II (Group B)
Laboratory I (Group A)
6:30 p.m.-9:00 p.m. Practice II (Group A)
Laboratory I (Group B)

THURSDAY, May 28

9:00 a.m.-12:00 noon Practice III (Group A)
Laboratory II (Group B)
2:00 p.m.-5:00 p.m. Practice III (Group B)
Laboratory II (Group A)
8:00 p.m. Dinner
Speaker: Prof. S.D.T. Robertson

FRIDAY, May 29

9:00 a.m.-12:00 noon Laboratory III (Group A)
Discussion (Group B)
1:00 p.m.-4:00 p.m. Laboratory III (Group B)
Discussion (Group A)
4:00 p.m.-4:30 p.m. Closing session

GUEST SPEAKERS

Among the Guest Speakers will be

N. Hylten - Cavallius
Director of High Voltage Laboratory
Research Institute, Hydro Quebec, Montreal

Professor S.D.T. Robertson
Department of Electrical Engineering
University of Toronto

R.M. Morris
National Research Council of Canada
Chairman of the IEEE Radio Noise Subcommittee

INSTRUCTORS

Professor E. Nasser
Dept. of Electrical Engineering
Iowa State University
Ames, Iowa

Professor W. Janischewskyj
Dept. of Electrical Engineering
University of Toronto

A support staff of assistants will be available throughout the course.

HIGH VOLTAGE CORONA

MAY 25-29, 1970.

Date _____ Signature _____

Please make cheques payable to the University of Toronto.

FEE: \$ _____ Cash ☐ Personal Cheque ☐ Company Cheque ☐

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DIVISION OF EXTENSION
UNIVERSITY OF TORONTO
84 QUEEN'S PARK
TORONTO 5, ONTARIO

GUEST SPEAKER

DR. LEONARD B. LOEB
Professor Emeritus
University of California
Berkeley Campus

SPECIAL LECTURE

Tuesday May 26
10:00 a.m. - 11:00 a.m.

Dr. Loeb is actively engaged in research on molecular physics and gas discharges and is the author of many books, the most recent of which is entitled "Electrical Coronas".